

CLAIMS

WHAT IS CLAIMED IS:

1. A lancing device comprising:
a housing;
a lancing mechanism operatively attached to the housing,
a pressure tip for engaging a target site and creating a target site bulge, the pressure tip moveably attached to the housing; and
a trigger mechanism for detecting a target site bulge of a predetermined height and, thereafter, triggering an immobilization of the pressure tip with respect to the housing, thereby preventing subsequent change in target site bulge location relative to said housing.
2. The lancing device of claim 1, wherein the lancing device further includes:
a bias spring for applying a pre-load force against the pressure tip.
3. The lancing device of claim 2, wherein the bias spring is configured to apply a pre-load force in the range of 3N to 13 N against the pressure tip.
4. The lancing device of claim 2, wherein the bias spring is configured to apply a pre-load force in the range of 9N to 10 N against the pressure tip.
5. The lancing device of claim 1, wherein the trigger mechanism includes at least one locking pawl and at least one pawl trigger arm.
6. The lancing device of claim 5, wherein the locking pawl includes pawl ratchet teeth and wherein the pressure tip includes pressure tip ratchet teeth.
7. The lancing device of claim 1, wherein the trigger mechanism includes a frictional clutch for immobilizing the pressure tip.
8. The lancing device of claim 1, wherein the trigger mechanism includes an optical relay switch configured to detect a target site bulge of a predetermined height..

9. The lancing device of claim 1, wherein the trigger mechanism includes an electrical relay switch.

10. The lancing device of claim 1, wherein the trigger mechanism is configured to initiate lancing by the lancing mechanism once the pressure tip has been immobilized.

11. A method for lancing a target site, the method comprising:
providing a lancing device that includes:

a housing;
a lancing mechanism operatively attached to the housing,
a pressure tip for engaging a target site and creating a target site bulge;
the pressure tip moveably attached to the housing; and

a trigger mechanism for detecting a target site bulge of a predetermined height and, thereafter, triggering an immobilization of the pressure tip with respect to the housing, thereby preventing subsequent change in target site bulge location relative to said housing;

contacting the pressure tip with the target site;

urging the pressure tip towards the target site, thereby creating target site bulge that is detected by the trigger mechanism and triggering an immobilization of the pressure tip with respect to the housing; and

lancing the target site bulge with the lancet mechanism.

12. The method of claim 11, wherein the target site is a dermal tissue target site.

13. The method of claim 11, wherein the providing step provides a lancing device that further includes a bias spring for applying a pre-load force against the pressure tip.